

# **EXHIBIT 2**

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Attorneys for Plaintiff and the Proposed Class

**UNITED STATES DISTRICT COURT**  
**CENTRAL DISTRICT OF CALIFORNIA**

Audrey Heredia as successor-in-interest to the  
Estate of Carlos Heredia; Amy Fearn as  
successor-in-interest to the Estate of Edith  
Zack; and Helen Ganz, by and through her  
Guardian ad Litem, Elise Ganz; on their own  
behalfes and on behalf of others similarly  
situated,

Plaintiffs,

vs.

Sunrise Senior Living, LLC; Sunrise Senior  
Living Management, Inc.; and Does 2 - 100,

Defendants.

CASE NO. 8:18-cv-1974-JLS (JDEx)

**DECLARATION OF DALE SCHROYER IN  
SUPPORT OF PLAINTIFFS' MOTION FOR  
CLASS CERTIFICATION**

DATE: October 23, 2020  
TIME: 10:30 a.m.  
JUDGE: Hon. Josephine L. Staton  
PLACE: Courtroom 10A

1. I, Dale Schroyer, declare as follows:

**INTRODUCTION**

2. I am over the age of 18, am competent to testify to the matters set forth below, and I have personal knowledge of those matters.

3. I am currently employed as a systems engineer and Senior Consultant by ProModel/MedModel where for the past 19 years I have been professionally responsible for the design, testing, and operation of an industrial engineering analytic tool used in the healthcare, manufacturing, pharmaceutical, and service industries to mathematically determine:

- a. the minimum amount of labor time or resources required in a workplace to perform all defined work tasks during a set timeframe,
- b. the *maximum work capacity* of a set number of staff (i.e. the maximum amount of the assigned work that can be performed by a precise number of workers during a defined timeframe), and
- c. the quantity of services, if any, that cannot possibly be performed during a set timeframe by a set number of staff due to workload exceeding maximum work capacity.

4. This computational analysis and these key metrics are used across the healthcare, manufacturing, pharmaceutical, and service industries to inform operational decisions about staffing and resource allocation, deployment, and utilization, as well as to provide solutions that improve efficiency, productivity, and throughputs.

5. As a systems engineer, my job is to break down a work system into discrete work tasks, identifying each task that requires work time during a workday, understanding how much time workers spend on each task, and defining and capturing every realistic variable that impacts task performance and work completion. These objectively verifiable facts are inputted into an engineering analytic tool known as Discrete Event Simulation (DES). A discrete event simulation (DES) is an industrial engineering tool that reproduces a work system by virtual modelling and digitally recreating all elements of that system, in order to test and measure the capacity of the

resources to perform the work required. A staffing DES provides a method of accurately analyzing and mathematically determining, in even the most complex systems, how much work can be completed when the amount of resources or other operational conditions are modified.

6. Stated another way, DES tests and measures the maximum of quantity of work or throughput in a workplace that is mathematically and physically possible when different levels of resources are utilized, taking into account every realistic work scenario. DES is also a recognized engineering tool for performing failure analysis, *i.e.*, determining the capacity of the work system and at what point the system fails due to overload.

7. Working at ProModel, I utilize the ProModel/MedModel DES analytic and computational software which was initially developed in 1988 by Dr. Charles Harrell, a professor of the Brigham Young Industrial Engineering Department, specifically for use by industrial engineers. This software is commonly referred to as simply “ProModel.” MedModel is simply the healthcare-specific application of ProModel.

#### **PROMODEL/MEDMODEL**

8. **Who Is ProModel/MedModel:** ProModel/MedModel is a leading simulation<sup>1</sup> analytics company whose DES testing and computational software is used and relied upon by the U.S. military, manufacturing and service industries, and healthcare institutions across the country. ProModel/MedModel’s DES testing and computational software measures and determines if (a) it is mathematically and physically possible for the number of workers scheduled on a job to handle the assigned workload (*i.e.* complete every task required to be performed) and (b) what quantity of work can and cannot be performed when different numbers of workers (or resources) are allocated to a job.

9. **Use of ProModel Simulations in Academia:** ProModel’s computational and engineering software is taught and used by leading engineering schools & research institutions

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<sup>1</sup> Computers have been used to simulate reality with increasing frequency and sophistication since the first large-scale deployment during the Manhattan Project in World War II, when simulations were used to model the process of nuclear detonation.

1 across the country. Over 80 universities and research institutions in North America are teaching  
2 DES using the ProModel platform. These include the MIT Sloan School of Management, McGill  
3 University, University of Michigan - Ann Arbor, University of Southern California, University of  
4 Texas - Austin, Yale University, University of Southern California, California State – Hayward,  
5 Clemson University, CaliPoly Pomona, San Jose State University, California State University –  
6 Fresno, University of California, Los Angeles, and Central Washington University CWU - Des  
7 Moines.

8       10.     **Using DES to Perform Failure Analysis and Test Staffing Levels:** Discrete  
9 Event Simulations are particularly appropriate for testing staffing levels and performing workload  
10 and workforce failure analysis. DES has long been used for these purposes in testing a wide array  
11 of work-place systems, including healthcare systems. Staffing simulations help decision-makers  
12 analyze and understand workload patterns and staffing needs that are not easily recognized or  
13 commonly understood. One of the advantages of DES analysis is that it allows thousands of  
14 realistic work scenarios to be tested, varying, for example, the times that services are to be  
15 provided in order to determine the most efficient schedule that results in the most work performed  
16 by the same number of staff. Further, DES analysis of staffing is particularly helpful when  
17 incorrect staffing decisions or invalid workload and time study assumptions can have risky or  
18 dangerous real-world consequences. By being able to safely simulate staffing levels, proposed  
19 decisions can be tested to determine the point at which a work system begins to fail, without risk  
20 of injury. Discrete event simulation modeling is widely-used and generally-accepted by the  
21 scientific and professional community as a reliable tool for testing and determining (1) capacity of  
22 a defined number of staff (the workforce) to meet the demands imposed by the work system, and (2)  
23 the percent of services that are physically possible or impossible (*i.e.*, failed or omitted).

24       11.     ProModel's computational software calculates how many workers are needed to  
25 perform a defined set of job tasks. The U.S. military, leading manufacturing and service  
26 companies, and healthcare institutions across the country use and depend upon ProModel for such  
27 determinations. ProModel's computational software measures and determines if it is physically  
28

possible for the number of workers scheduled on a job to handle the assigned workload (i.e. perform all essential tasks in a defined amount of time).

12. **Use of ProModel Staffing Simulations in the Military:** For over 25 years, the United States Department of Defense has depended upon ProModel to determine the number of soldiers, support personnel, and resources needed to successfully complete missions. The ProModel software has been used and relied upon by all branches of the United States military, including the Army, Navy, Air Force, Marines, the Joint Chiefs of Staff, The Center for Army Analysis, Special Forces, the Naval Air Warfare Center, and the Naval Air Systems Command. Further, ProModel software is accredited by the United States Department of Defense as the authoritative, proven, and exclusive system of record on the Army Classified Network for determining the number and type of Army units and associated military personnel that are needed for every Army mission. The Army has mandated, for every mission conducted over the past 9 years, that ProModel's software be used to test and determine the number, timing and type of Army units and personnel required.

13. **Use of ProModel Staffing Simulations in the Manufacturing and Service Industries:** For over 25 years, ProModel software has been used by companies across the United States to make decisions regarding staffing resources and operational design and determine the capacity of resources to meet workload demands. There are now over 4,000 users of ProModel technology. ProModel is used and relied upon by over half of the Fortune 500. A few examples of companies that use ProModel software include: FedEx, Ford, John Deere, Timex, General Electric, DuPont, Boeing, Harley Davidson Motor Company, General Motors, Whirlpool Corporation, CocaCola, IBM, jetBlue, and Lockheed Martin. In California, the following companies use ProModel: Raytheon, Rolls Royce, Pfizer – La Jolla, Oculus, Bumble Bee Foods, LLC, and Wells Fargo. In Washington, the following companies use ProModel: Amazon, Boeing Space, Boeing Commercial, Hewlett-Packard, Microsoft, T-Mobile, and Starbucks Coffee.

14. **Use of ProModel/MedModel Staffing Simulations in Healthcare:** For over 25 years, ProModel/MedModel computational software has been used and relied upon by hospitals, emergency rooms, medical clinics, and other healthcare facilities across the country to make

decisions regarding staffing resources and operational design and determine the capacity of resources to meet workload demands. More hospitals use MedModel than all other simulation software combined. Examples of MedModel users in healthcare include: Mayo Clinic, Texas Children's Hospital, John Hopkins Hospital, Massachusetts General Hospital, MIT, Harvard Medical School Teaching Hospital, Stanford Hospital & Clinics, University of Arkansas Medical Center, MD Anderson Cancer Network, Emory Healthcare, Children's National Medical Center, Kaiser Permanente, Baylor Health Care System, Cleveland Clinic, UNC-Chapel Hill Medical Center, HCA Hospitals, Providence Health Systems, OSU Medical Center, UVA Medical Center, UAB-Birmingham Medical Center, Seattle Children's Hospital, and Swedish Medical Center Seattle. In California, healthcare users include: AltaMed, Stanford Medical Center, Stanford Blood Center, Verb Surgical, HOAG: Hospital Foundation, University of California, and San Diego Medical Center. In Washington, healthcare users include: ER One, Washington Hospital Center, Kadlec Regional Medical Center, MultiCare Health System, Northwest Hospital, Swedish Medical Center, and Seattle Children's Hospital.

15. **Use of ProModel/MedModel Software to Determine How Much Staff Time Is Required to Provide Care and Services in Long-Term Care Facilities:** Since at least 2000, MedModel computational software has been used to determine the capacity of nursing home staff to meet the care needs of the facility's resident population. The Centers for Medicare and Medicaid Services and principal researcher Dr. John F. Schnelle used and relied upon MedModel to digitally model and reproduce the operation of nursing homes to mathematically test the effect that different numbers of staff have on the delivery of basic care to residents. More specifically, MedModel was used to mathematically determine (1) what happens to the delivery of basic care when the nurse aide-to-resident ratios are increased or decreased in low, medium, and high workload nursing homes and (2) the minimum staffing ratios and hours required to provide the basic care needed by residents. For purposes of this extensive study, the basic care examined and modeled on Med/Model's software platform was toileting, incontinent care, repositioning, feeding, bathing, AM/PM care (including dressing, transferring, and personal hygiene), exercise, and range of motion provided by CNAs. The results of this study were published by CMS in

1 December 2001 in the *Phase II Final Report* regarding the *Appropriateness of Minimum Nursing*  
2 *Staff Ratios in Nursing Homes*, which was submitted to the United States Congress (“Phase II  
3 Report”). With respect to the MedModel-based Phase II simulation findings, CMS reported to the  
4 United States Congress that:

5 “The simulation models do not create data to predict theoretical outcomes nor  
6 are they based on theoretical ‘unknowns.’ On the contrary, they take what is  
7 known and use these ‘givens’ to **mathematically predict outcomes, usually**  
8 **with a high degree of accuracy.**”

9  
10 Using simulation analytic strategies, **labor-intensity data can be converted**  
11 **mathematically** into estimates of minimum staffing ratios needed.”

12 [Emphasis added].

13 Further, in 2004, the Institute of Medicine (National Academy of Sciences) in its report entitled  
14 Keeping Patients Safe adopted staffing standards based on Dr. Schnelle’s Phase II work. The  
15 reliance by CMS on the MedModel software and the subsequent adoption of the MedModel  
16 results by the Institute of Medicine affirms this technology’s general acceptance.

17 16. **Use of MedModel in Assisted Living Facilities:** MedModel software can be and  
18 has been applied to reliably test how many staff are required to provide care and services to  
19 residents in assisted living facilities. In 2012, MedModel testing was used by a chain in  
20 Minnesota to: (1) determine the maximum care capacity of staff at its assisted living facilities and  
21 nursing homes, (2) determine at which point resident workload exceeded staffing capacity and  
22 resulted in failure to deliver services (failure analysis), and (3) assist that chain in making staffing  
23 decisions. Further, the use of discrete event simulation in assisted living facilities to objectively  
24 determine the amount of staffing required based on the unique needs of a patient population was  
25 acknowledged to be an accepted methodology in the peer-reviewed publication *The Gerontologist*  
26 (2017):  
27  
28



1 Given the availability of time data similar to that reported in this study for all  
2 aspects of daily care, common staffing methodologies, such as those based on  
3 *discrete event simulation modeling*, could be used to objectively determine the most  
4 optimal staffing model for an individual facility based on their unique resident  
5 population.” (citing Schnelle, Schroyer, Saraf, & Simmons, 2016). Given the  
6 similarities between the NH resident population and those receiving dementia care  
7 services in ALFs (Zimmerman et al., 2013), we believe this approach is equally  
8 applicable to the ALF care setting.” (emphasis added).

9 *Managing Person-Centered Dementia Care in an Assisted Living Facility: Staffing and Time*  
10 *Considerations*, Simmons, Coelho, Sandler, Shah and Schnelle, *Gerontologist*, 2017, Vol. 00. No.  
11 00, 1-9, doi:10.1093/geront/gnx089.

12 17. As discussed previously, basic care services such as toileting, incontinent care,  
13 feeding, bathing, dressing, transferring, and personal hygiene which are provided by assisted  
14 living facilities to assisted living residents (unable to perform the same) have been the subject of  
15 extensive DES testing and analysis by ProModel/MedModel in numerous nursing homes. Further,  
16 the nursing care, treatments, and medications required to be provided by assisted living staff to  
17 assisted living residents are similar to the care, treatments, and medications modeled, measured,  
18 and analyzed by ProModel/MedModel in emergency rooms, hospitals, and other healthcare  
19 facilities.

20 18. **MedModel Can Be Used to Quantify the Amount of Care Time Required and**  
21 **Omitted at Sunrise’s Assisted Living Facilities:** MedModel’s simulation software can be  
22 employed in this case to determine if it was mathematically and physically possible for Sunrise  
23 staff to provide all the resident care services that were required and documented as needed by  
24 residents. MedModel’s simulation software provides a well-established methodology to  
25 determine the amount of care time required per day in Sunrise’s assisted living facilities and to  
26 quantify the extent to which available staff time was sufficient or insufficient.

1           19.     **Sunrise Facility-Specific Inputs Required:** To conduct MedModel testing of  
2 staffing and resident care and services in a Sunrise assisted living facility, the following facility-  
3 specific data is required:

- 4           a.     daily resident **census**,
- 5           b.     defined staffing levels (the staff hours per patient day or “PPD”) for each staff  
6 type on a per shift or per day basis for each distinct unit within the facility—  
7 often referred to as “**staffing**” data,
- 8           c.     a daily count of each line-item service that is required for each resident in the  
9 facility—often referred to as “**workload**” or “assessment” data (including  
10 identification of which of those tasks are performed by which staff types-by  
11 job title), and
- 12           d.     **floor plans** for each facility, including room numbers, distinct units, locations  
13 of dining rooms, activity rooms, and **distances** staff must travel to deliver  
14 services to residents.

15           20.     These inputs are the same kind of inputs that are used by ProModel/MedModel  
16 computational and analytic software to test workload and staffing in the U.S. military, leading  
17 manufacturing and service companies, and healthcare institutions across the country.

18           21.     **Sunrise General Inputs and Logic Required:** In addition to the facility-specific  
19 data needed, MedModel requires the following inputs:

- 20           a.     **task time** and **task frequency** data regarding each care and service task,
- 21           b.     the amount of time staff spends on breaks and for each **non-care related task**  
22 that staff must perform,
- 23           c.     how fast staff travels over the floor plan (**travel speed**),
- 24           d.     **priorities** of care and service tasks,
- 25           e.     when is a care or service task deemed omitted if not performed (**care**  
26 **windows**), and
- 27           f.     staff **productivity**.
- 28

22. It is my understanding that all of the necessary components required to test the sufficiency of staffing at each of Sunrise's assisted living facilities using MedModel DES analysis have been requested in this case, but that not all of them have been provided.

23. Assuming these facility-specific and general inputs are produced, MedModel can scientifically test the sufficiency of Sunrise's staffing.

24. **What Do All These ProModel/MedModel Computational Analyses Have in Common?** Regardless of the industry or workplace where applied, ProModel/MedModel's staffing DES is grounded in the same methods and procedures of science, industrial engineering, and mathematics. This ProModel/MedModel's software and staffing analyses is particularly well-suited to an examination and study of repetitive tasks performed in any workplace by a known number of workers over a known amount of time and distance. For example:

a. Using DES to Analyze Staffing Levels: DES is particularly appropriate for use in analyzing staffing levels for virtually any type of work-place system, including healthcare systems, and simulations have long been used for that purpose. Such staffing DES is quite useful in helping decision-makers understand staffing needs and patterns that are not easily recognized or commonly understood. Staffing DES is particularly helpful when incorrect staffing decisions could have risky or dangerous real-world consequences. By being able to safely simulate staffing levels, proposed decisions can be tested without fear of injury. A wide variety of industries, including health care, rely on DES to determine: (1) capacity of staff to meet the demands imposed in the workplace and (2) proportion of services provided and omitted.

b. Methodological Similarities Between All Staffing DES Analyses: The basic methodology used to create staffing DES is the same across industries and simulation platforms/software. When a specific number of staff is required to perform a defined number or combination of tasks with associated, defined labor time costs in certain physical locations at defined distances within a specific period of time, a valid computer staffing simulation can be created.

- 1 c. Formulae Common to Staffing DES: Staffing DES analyses use an array of  
2 simple logic, math, statistical concepts, and user defined distributions to  
3 account for variation, priority and structure. These include how long a  
4 specific task takes to complete, how long it takes to travel from one point to  
5 another, what tasks must be done, and how many staff members are available  
6 to do the work.

7 25. **Peer-Review of MedModel and ProModel Software**: Discrete event simulation  
8 technology is and has been widely used by the healthcare research community and is generally  
9 accepted as a reliable method for analyzing the capacity of a resource to meet a need. The use of  
10 simulations created using *specifically* MedModel and ProModel have appeared in numerous  
11 scholarly journal articles subject to peer review, including but not limited to:

- 12 a. Schnelle JF, Schroyer LD, Saraf AA, Simmons SF (2016), “Determining  
13 Nurse Aide Staffing Requirements to Provide Care Based on Resident  
14 Workload: A Discrete Event Simulation Model,” *17 Journal of the American*  
15 *Medical Directors Association pp. 970-977* (cited as *Schnelle 2016 JAMDA*).  
16 b. “Simulation Success: Software Improves Practice Efficiencies,” Medical  
17 Group Management Association’s *MGMA Connexion*, March 2011, page 19;  
18 c. Cancelarich Joe, (2011) “Building a Modeling Culture in Manufacturing at  
19 Pfizer,” *Pharmaceutical Manufacturing*;  
20 d. Day TE, Li WM, Ingolfsson A, Ravi N, (2010) “The Use of Queuing and  
21 Simulative Analyses to Improve an Overwhelmed Pharmacy Call Center,”  
22 *Journal of Pharmacy Practice*, 23(5) (in press);  
23 e. Levin SR, Dittus R, (2008), “Optimizing cardiology capacity to reduce  
24 emergency department boarding: A systems engineering approach,” *American*  
25 *Heart Journal* (article in press), and  
26 f. Khare RK, Powell ES, (2008), “Adding More Beds to the Emergency  
27 Department or Reducing Admitted Patient Boarding Times: Which Has a  
28

1 More Significant Influence on Emergency Room Congestion?," *Annals of*  
2 *Emergency Medicine*.

3 As is the case with the CMS' conclusions based on the MedModel computational software set out  
4 in Phase II Report to Congress (discussed above), these peer-reviewed articles confirm the general  
5 acceptance of ProModel/MedModel's computational analysis.

6 26. **General Acceptance by the Relevant Scientific Community:** MedModel's  
7 computational DES software is generally accepted by the relevant community of scientists  
8 expected to be familiar with its use. The relevant scientific community is comprised of scientist  
9 who use computer simulations in the field of management science. Based on its long history of  
10 use by numerous reputable entities, including prestigious universities, the U.S. Military, Fortune  
11 500 companies, and leading healthcare companies, MedModel's programming platform is a  
12 reliable tool and generally accepted by this relevant scientific community.

13 27. Like the various DES testing in other settings described above, the MedModel  
14 assisted living DES that is the subject of this declaration is grounded in the same methods and  
15 procedures of science, industrial engineering, and mathematics, and it has been subjected to the  
16 same intellectual rigor, scientific methodology, and industrial engineering principles.

17 **QUALIFICATIONS AND SIMULATION BACKGROUND**

18 28. **Education and Experience:** I graduated from the University of Michigan -- Ann  
19 Arbor in 1977 with a Bachelor of Science degree in Mechanical Engineering. In 1995, I obtained  
20 a Master's degree in Management Science from Lesley University in Cambridge, Massachusetts.  
21 As discussed below, since the mid-1990s I have had extensive experience with discrete event  
22 simulations.

- 23 a. **Aerospace Employment:** From 1980 to 1994, I was a Project Engineer at the  
24 Hamilton Sundstrand Division of United Technologies. Hamilton Sundstrand  
25 is a global enterprise with various business units that design, manufacture, and  
26 support aerospace and industrial products for worldwide markets. It is the  
27 prime contractor for NASA's space suite/life support system and produces  
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1 environmental control, life support, mechanical systems, and thermal control  
2 systems for international space programs.

3 b. At Hamilton Sundstrand, my work included serving as internal consultant for  
4 operations improvement for the engineering and operations departments,  
5 reporting to the Vice- President of Engineering and Operations. This work  
6 included statistical process control, ISO-9000 certification, and total  
7 productive maintenance. Part of my responsibilities at Hamilton Sundstrand  
8 was to perform kinematic simulations of the three-dimension Computer Aided  
9 Drafting models of machinery designs to ensure they met performance  
10 requirements prior to initiating prototyping of the new design.

11 c. **Health System Employment:** From 1994 to 2000, I served as a Senior  
12 Corporate Management Engineering Consultant for Baystate Health System in  
13 Springfield, Massachusetts. Baystate Health System has nearly 10,000  
14 employees and operates some 783 beds in four hospitals. I was hired by  
15 Baystate Health System specifically for my simulation experience since they  
16 had already made the decision to simulate using MedModel key major  
17 revisions to their health system and needed someone with simulation  
18 experience who understood the requirements of properly defining a  
19 simulation model and correctly interpreting the output results. In this capacity,  
20 I facilitated quality improvement efforts throughout the System including  
21 setting standards, facilitating business re- engineering teams, information  
22 systems analysis, and performing discrete event simulations using the  
23 ProModel/MedModel engine and computational software. ProModel DES  
24 testing was used as a tool for decision-making and educating the management  
25 team about the consequences of proposed actions. From the mid-1990s to  
26 2000, I simulated various actions proposed by management. This allowed us  
27 to understand the effect of those actions without putting patients at risk.  
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- 1           d. **ProModel/MedModel:** In 2000, I began working for ProModel Corporation as  
2           a Senior Consultant in the Life Sciences Vertical Division. As a Senior  
3           Consultant, I have had significant healthcare-related simulation modeling  
4           experience using both the ProModel and MedModel engines. I have significant  
5           experience modelling resident care and services and performing DES testing  
6           on the effects of different staffing levels on the delivery of care. More  
7           specifically, since 2012, I have worked with Dr. John Schnelle performing  
8           extensive DES testing of staffing and activities of daily living (ADLs) in  
9           nursing homes across the country. This DES testing and results served as the  
10          basis for a peer-reviewed journal article entitled, “Determining Nurse Aide  
11          Staffing Requirements to Provide Care Based on Resident Workload: A  
12          Discrete Event Simulation Model, JAMDA 17, 970-977 (2016) authored by  
13          Dr. Schnelle, myself, and others.
- 14          e. **Healthcare Projects:** For the past 19 years, I have been either principally  
15          responsible or have had a significant role in ProModel/MedModel computer  
16          simulation projects across a wide range of industries and applications, but  
17          with an emphasis on the healthcare industry. Using and applying MedModel  
18          discrete event simulation (DES) computational software, I have tested the  
19          effects of various staffing levels on the delivery of numerous types of care,  
20          treatment, and related services in many healthcare settings, including but not  
21          limited to:
- 22                  i. 170 emergency departments nationwide for Hospital Corporation of  
23                  America (HCA), located in 21 U.S. states,
- 24                  ii. A large geriatric healthcare provider’s nursing homes, assisted living  
25                  facilities (with a dementia care unit), and a transitional care unit in  
26                  Minnesota,
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- 1 iii. Nursing homes across the United States, including facilities operated by
- 2 various national chains,<sup>2</sup>
- 3 iv. Exempla Health operating rooms in Denver,
- 4 v. Baystate Health emergency rooms, call center, and primary care
- 5 centers, across western Massachusetts,
- 6 vi. Caremark Pharmacy,
- 7 vii. Olympus Computational Equipment laboratories, operating worldwide
- 8 with 92 group companies in 39 countries,
- 9 viii. Carillion Health specialty office, located in Roanoke, Virginia with
- 10 facilities through Virginia,
- 11 ix. Fletcher Allen, now referred to as the University of Vermont Medical
- 12 Center is located in Burlington, Vermont,
- 13 x. GI Lab at Stanford University Hospital in Palo Alto, California,
- 14 xi. Oakwood Health emergency department in Columbus, Ohio,
- 15 xii. Evergreen Health emergency department,
- 16 xiii. Fort Bragg, Fort Eustis, and Fort Irwin in various clinical settings,
- 17 xiv. Middlesex, Connecticut hospital operating room,
- 18 xv. Washington Hospital Center's neurological specialty operating room,
- 19 xvi. St. Francis of CWH's perioperative unit,
- 20 xvii. Swedish Hospital's operating room suites in Seattle,
- 21 xviii. Basset Memorial surgery unit in New York, and
- 22 xix. Terumo Medical device manufacturing in Maryland.
- 23

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24 <sup>2</sup> I have significant experience modelling resident care and services and performing DES testing  
25 on the effects of different staffing levels on the delivery of that care. More specifically, since  
26 2012, I have worked with Dr. Schnelle on this subject. To date, working in conjunction with Dr.  
27 Schnelle, we have performed extensive DES testing of staffing and activities of daily living  
28 (ADLs) in nursing homes across the country. This DES testing and results served as the basis for  
a peer-reviewed journal article entitled, "Determining Nurse Aide Staffing Requirements to  
Provide Care Based on Resident Workload: A Discrete Event Simulation Model, JAMDA 17,  
970-977 (2016) authored by Dr. Schnelle, myself, and others.



29. **Qualifications and Expertise on How Staffing Effects the Delivery of Resident Care and Services in Assisted Living Facilities:** Based on my knowledge, skill, experience, training, and education, discrete event simulation that models and tests the capacity of a defined number of staff to provide care and services to residents in assisted living facilities falls within my expertise and qualifications.

30. I reserve the right to revise my opinions and findings if additional relevant information is made available regarding the subjects of this declaration.

I declare under penalty of perjury under the laws of California and the United States that foregoing is true and correct.

Executed on May 15, 2020 in East Longmeadow, Massachusetts.

L. B. Schryer

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DALE SCHROYER